



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/524,247

02/10/2005

Howard P. Klein

81,610

4625

29089

7590

08/20/2008

HUNTSMAN PETROCHEMICAL CORPORATION  
LEGAL DEPARTMENT  
10003 WOODLOCH FOREST DRIVE  
THE WOODLANDS, TX 77380

EXAMINER

MOORE, MARGARET G

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

08/20/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,247	<b>Applicant(s)</b> KLEIN ET AL.	
	<b>Examiner</b> Margaret G. Moore	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 to 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 to 6 is/are rejected.
- 7) ☒ Claim(s) 7 to 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 1796

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/4/08 has been entered.

2. The prior art rejections in paragraphs 4 and 5, below, are maintained from the previous office actions.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sellstrom et al. in view of Yeakey.

Sellstrom et al. teach an epoxy resin composition containing a combination of amine hardeners as found on the bottom of column 1. In the general formula on the bottom of column 1, "x" is preferably 2 or 3. The only difference between this diamine and that in claim 1 is that the diamine in Sellstrom et al. contains a methyl groups on the carbon atom attached to the amine rather than an ethyl group.

Yeakey is the generic reference that teaches such polyamines as curing agents for epoxy resins. The formula on column 1, lines 15 to 20, is generic to the specific diamine found in Sellstrom et al. This reference teaches that the Z group, which corresponds to the methyl group in Sellstrom et al., can be hydrogen, methyl or ethyl.

It is prima facie obvious to substitute equivalents, motivated by the reasonable expectation that the respective species will behave in a comparable manner or give comparable results in comparable circumstances. In re Ruff 118 USPQ 343; In re Jezel

158 USPQ 99; the express suggestion to substitute one equivalent for another need not be present to render the substitution obvious. In re Font, 213 USPQ 532. In the instant application, it would have been obvious to use an ethyl substituent group rather than a methyl group with a reasonable expectation of obtaining comparable results. While the skilled artisan would have expected a longer cure time associated with the diamine having ethyl groups, since the reactive  $\text{NH}_2$  will be more sterically hindered, it is reasonable to expect that both types of diamines will function as epoxy curatives in a comparable or at least expected manner. In this manner claims 1 and 2 are rendered obvious. For claim 4, note that Sellstrom et al. includes xylenediamine as well.

Applicants' traversal of this rejection is not persuasive. It is argued that the "other amine group" is attached to a repeating unit. They argue that there is no teaching or suggestion that one could replace the methyl group on the carbon attached to the non-repeating amine group with an ethyl from a repeating amine group of Yeakey. The Examiner does not completely follow this argument but reminds applicants that the diamine in Sellstrom is a species of the general formula in Yeakey (see Yeakey when "m" is 2 and "n" is 0, both specifically delineated values for "m" and "n"). The amines that applicants refer to as the non-repeating amine and the repeating amine are present in both Sellstrom and Yeakey. It is only the methyl group attached to the  $\text{C-NH}_2$  group that must be modified to result in the claimed diamine. As noted supra, such a methyl group corresponds to the Z group in Yeakey and this difference is rendered obvious by the prior art. In addition, regarding cure time, since the methyl/ethyl group in question is adjacent to the amine (or reactive) group, it follows that this group will sterically hinder the reactive amine group, providing a slower curing rate. Again, applicants have provided no unexpected results.

5. Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Waddill et al.

Waddill et al. teach polyether urea curing agents which are the reaction product of a polyoxyalkylene polyamine with a bifunctional isocyanate. See for instance the abstract. As can be seen from the bottom of column 4, the most preferred curing agent

is formed from the reaction of a polyoxypropylenepolyamine having a molecular weight of about 200 to 400. With this in mind see the general formula on column 5 for the polyoxypropylenepolyamine, particularly the most preferred example. In this preferred polyoxypropylene, when "n" is 1 the molecular weight is just under 200. Obviously polyoxypropylenepolyamines having "n" as 1 are clearly among the preferred embodiments. The only difference between this preferred polyamine and that claimed is that, in the preferred polyamine, X is methyl while the corresponding X group in the claimed polyamine is ethyl. As can be seen from the general formula on column 5, however, X can be methyl or ethyl in the alternative. Since it is prima facie obvious to replace one equivalent with another, as noted above, the skilled artisan would have found the difference between the preferred polyoxypropylenepolyamines and that claimed to have been obvious. Again, the skilled artisan would have expected that the cure rate would be slower when X is ethyl or methyl since the reactive amine group will be more sterically hindered. The top of column 6 teaches a diisocyanate reactant. For claim 5, it would have been obvious to use the polyoxypropyleneamines having an X ethyl group in combination with polyoxypropyleneamines having an X methyl group since it would have been obvious to combine comparable curing agents in an effort to optimize and/or modify the cure rate. Note too that two compositions, each of which is taught by prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose has been held to be prima facie obvious.

Applicants' traversal is not persuasive. They argue that Waddill does not teach that the Z group may be an amine group. Applicants are overlooking the fact that "r" can be 2 and that the amine on column 5 is preferably a diamine. Z in Waddill need not be an amine group. Z corresponds to the claimed R1 group. In addition, regarding cure time, since the methyl/ethyl group in question is adjacent to the amine (or reactive) group, it follows that this group will sterically hinder the reactive amine group, providing a slower curing rate. Again, applicants have provided no unexpected results.

6. Claims 7 to 9 are objected to as being dependent upon a rejected base claim but containing subject matter that is neither taught nor suggested by the prior art.

Art Unit: 1796

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret G. Moore whose telephone number is 571-272-1090. The examiner can normally be reached on Monday and Wednesday to Friday, 10am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Margaret G. Moore/  
Primary Examiner, Art Unit 1796

mgm  
8/18/08